

reduction in platelet survival, is the commonest type of platelet abnormality causing a bleeding disorder, but hereditary disorders of platelet function such as thrombosthenia or the giant platelet syndrome are recognized causes of a bleeding tendency.

Deficiency of clotting factors, resulting in impairment of haemostasis, tends to produce delayed but persistent bleeding after injury. Acquired deficiencies—due, for example, to liver disease, vitamin K deficiency, the administration of coumarin anticoagulants, or consumption coagulopathy—are usually multiple, whereas hereditary deficiencies are almost invariably single.

Disseminated Intravascular Coagulation

Several stimuli can induce widespread intravascular thrombosis with resultant consumption of fibrinogen, platelets, and clotting factors (consumption coagulopathy). These stimuli include the entry into the circulation of coagulant agents such as placental material during obstetric complications, and damage to the vascular endothelium as a result of inflammation or allergy. Such a process may be acute, with the production of a severe haemorrhagic state, or exist in a subacute or chronic form, with mild purpura or no bleeding features. The intravascular presence of fibrin normally stimulates the secondary development of local fibrinolytic activity but may, occasionally, be accompanied by an increase in systemic fibrinolytic activity.

Hyperplasmaemia

Primary hyperplasmaemia is due to the rapid formation of plasmin in excess of the ability of the circulating antiplasmins to neutralize it, resulting in proteolysis of fibrinogen and coagulation factors. Doctors may cause this during thrombolytic therapy, but otherwise hyperplasmaemia is rare, but it may occur in patients with prostatic carcinoma and metastases, cirrhosis of the liver, and after major thoracic operations.

Thrombosis

Intravascular thrombosis probably requires the participation of platelets and activation of the coagulation mechanism. It is also well known that the structure of arterial and venous thrombi differ: arterial thrombi consist principally of a platelet mass at a site of definite vascular injury whereas the venous thrombus has a small platelet head and a large tail of fibrin and red cells. The importance of the large fibrin tail of thrombi in the major veins lies in the ease with which it may be detached with resultant pulmonary embolism, but in arterial thrombi the initial platelet aggregates are loose and may also be detached and carried onward in the blood stream. In the case of thrombosis in the carotid artery, such platelet aggregates may occasionally be seen in the retinal vessels and produce transient visual disturbances (amaurosis fugax).

The precise mechanisms triggering arterial and venous thrombosis are uncertain and discussion on hypotheses are outside the scope of this article. In the case of arterial thrombi related to plaques of atheroma presumably platelets adhere to the damaged wall and initiate thrombosis, but it is not known whether venous thrombosis starts with the formation of a small platelet nidus or whether the activation of the coagulation mechanism with fibrin formation is independent of platelet adhesion and aggregation. One suggestion is that venous thrombi may commence with the formation of platelet thrombi in valve cusps, but as no histological differences can be found in the endothelium of valve pockets with and without thrombi the factor responsible for initiating thrombosis remains speculative.

Further Reading

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Occasional Survey

Eld Health*

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Introduction

It is 27 years since Dr. Trevor Howell brought together some pioneers of British geriatric medicine to found the British Geriatrics Society. Besides Lord Amulree, now President Emeritus, he invited Drs. Marjory Warren, Eric Brooke, Tom Wilson, Lionel Cosin, Lawrence Sturdee, and Alfred Mitchell.

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The origins of this occasion, and of their interest in it, are told elsewhere.¹ Beginning as "The Medical Society for the Care of the Elderly," the change to our present title was made 15 years ago though the founders chose theirs with care to exclude "geriatrics," a word some consider ugly and unscholarly.² As an alternative "Eld Heath" has been suggested to me by Professor John Braidwood of the English Language department at Queen's University because "Child Health" is more felicitous than "paediatrics," and the early English equivalent of "child" for an old age was "eld".

Objectives

The pioneers had four main objectives:

Classification—defining simple categories of disease and disability to resolve the anarchy of chronic hospitals and allocate care according to need.

Assessment of disability—recognizing it as an entity distinct from the underlying illness.

Improved standards of longstay and terminal care.

Liaison with other disciplines, especially in resettlement and aftercare.

The geriatric units and rehabilitation programmes which grew out of these beginnings provided a phase of care for the elderly sick which did not previously exist; the clinical methods of general medicine replaced the neglect of investigation in the old institutions, combining diagnosis and rehabilitation in a system of reform which was one of the more successful features of hospital development in the National Health Service. Two other elements of progress—research and education—came later.

Little of this research was “scientific” in the use of sophisticated techniques and appliances: it was clinical or operational, derived from the spirit of inquiry of geriatric physicians who pursued special interests as well as routine clinical and administrative work, usually without the backing or finance of established academic departments or research funds.

Teaching of geriatrics began with lectures for nurses, health visitors, and other professional groups concerned with the care of the aged, and was extended to include doctors in more ambitious courses of clinical instruction, case conferences, and seminars. These contributions to postgraduate medical and nursing education have always been welcomed and are well supported by national and international visitors. But the teaching most vital to this society, and to the next generation of old people—undergraduate teaching—has had an uphill struggle.

Diagnosis, rehabilitation, research, and education were allied in the pioneer attack on the mass of chronic incapacity, and estimates of the level of success or failure vary according to personal views. I can only give you my own.

A total of 200 service units in Great Britain demonstrate the successful integration of inpatient and outpatient resources for the investigation, assessment, and treatment of geriatric disease and disability, and the services of their day-hospital, psychiatric assessment, advisory, and counselling facilities are important, but often invisible, assets of the hospital system. Demands on them must increase, and the assurance that these will be met depends less on resources for care than on the quality of the medical and nursing staff available to deliver it. Unfortunately, the development of effective geriatric clinical practice has not been accompanied by equal success with two other prerequisites of sound geriatric services—the recruitment and training of the essential staff, and the assurance of uniformly high standards of long-stay and terminal care.

Recruitment Problems

Several factors contribute to the shortfall in recruitment:

Geriatrics has become synonymous with “chronic sick.” Even so, medical or nursing students do not find the work unrewarding when presented to them properly. They learn to disparage it because the divide between acuteness and chronicity has been perpetuated in general versus geriatric medicine, and because, unlike other aspects of their education, systematic instruction, practical experience, and formal examination in geriatrics are not requirements for qualification. Throughout their training doctors and nurses are in conscious or subliminal contact with the attitudes towards protracted disability and breakdown which Binks³ described as “limited approach,” “imperative relegation,” and “aggressive irresponsibility.” The derogatory image of this phase of illness acquired by the student persists in the graduate unless it is erased by practical experience of the rewarding clinical work and research opportunities possible in favourable circumstances.

“Favourable circumstances” derive from the support of management and other hospital departments, and of community services. Regrettably it is often inadequate, and this has not passed unnoticed. A promising graduate refused to consider an appointment in geriatric medicine lest he would “lose too much time trying to tear the bare essentials for routine work out of the hands of reluctant administrators.” His disinclination is widely shared by young doctors.

The Todd Report⁴ recommended that professional training of British doctors after the preregistration hospital year should include general professional training for three years in senior house officer and registrar grades, before the advanced training required for different specialties. In spite of the postgraduate programmes and rotations designed for general professional training there seems to be a tide running against the best interests of general, as well as geriatric medicine, drawing newly-fledged doctors too early out of whole-patient oriented practice into systems specialties. Professional reputation, rapid advances in medicine, and E.E.C. regulations are thought to promote this narrow specialism regardless of the general nature of most work required of the medical services.⁵

Research in scientific clinical departments attracts young doctors for the same reasons. While the research worker's education and the advancement of medicine often benefit from this, there must be instances when potentially able young doctors find themselves occupied with expensive apparatus, taking measurements of doubtful relevance, at the expense of the health services. “The need for thought, observation, ideas, and hypothesis, which form the hard work of research, recedes comfortably into the background for a year or two while the research worker, supported by a grant, and relieved of the much harder task of practising medicine, collects his results and has them analysed for him by a computer.”⁶

As for standards of longstay care, in spite of new building and improved geriatric hospital services in general, there is still too little agreement about organization and practice within different groups of hospitals and too much variation in levels of care. Only a very complacent physician in geriatric medicine could have believed that they were uniformly good, even before the revelations given by Haliburton and Wright.⁷ Their paper was a timely reminder of the risks of complacency, and one of them is that we ourselves might join the drift into narrow specialism at the expense of longstay standards.

Sir Heneage Ogilvie⁸ suspected that the surgeon with a huge operative turnover and negligible mortality was a surgical spiv. The geriatric physician with a high turnover and no longstay problem is equally suspect as a gerontological spiv. Somebody, somewhere, must carry the can for him. Deficiencies in the effectiveness of local preventive geriatric care, and pressure from the community and professional colleagues often mean that the greatest deterrent to an appointment in geriatric medicine is the risk of becoming what Kemp⁹ aptly described as a “clinical undertaker”—carrying the entire responsibility for area longstay problems. Yet, if we cannot solve these, we fail the founders of this Society, whose good intentions were directed as much to care as to cure.

Improving the Image

Advice and comment on these difficulties from other quarters are seldom helpful. Some suggest that geriatrics has failed to be accepted as “elitist,” others that something must be done to make it more attractive. Specialties have become elitist by opting out of what is known as geriatric medicine, adding to our difficulties and those of the general physician. The longstay problem will not be solved if we follow this example.

The essentials to make geriatrics rewarding are good working conditions and optimal staff/patient ratios, and the second of these is the more important. It does not help to be told, in effect, that we need to attract enough staff to make conditions attractive enough to attract staff. Our difficulty in recruitment does not arise so much from lack of “attractiveness” in geriatric medical or nursing practice as from the lack of obligation in medical and nursing education to engage in it.

If these explanations are valid our problems in geriatric medicine can only be solved by radical changes in the education and in the deployment of medical manpower. We as geriatric physicians may believe that teaching of our subject should be a requirement of undergraduate education, but geriatrics does not appear, even as a desideratum of medical education, in the patterns of undergraduate teaching set out by the Todd Report and by the General Medical Council decennial guide. We owe its place in teaching, such as it is, to the heavy claims made by

old people on health and social services, and patterns of teaching, far from being consistent, like Topsy, have just growned.

The importance of teaching in the scientific clinical departments is unquestioned, but there are qualities, essential to good doctoring, "about which science is silent".¹⁰ They are the ingredients of the art of medicine—warmth, feeling, compassion, humour, patience, integrity, and understanding. Gilchrist¹¹ described the art as "knowledge, judgment, sympathy, and an ability to anticipate the reactions of the patient," whereas science is "cool, critical, calculating, and detached." Gilchrist's "compleat physician" required a happy combination of both in the service of mankind. The desire for proper recognition of the uniqueness of the individual and for balance in medical teaching between science and humanism is constantly reiterated,¹²⁻¹⁷ and might best be fulfilled by complementing the science of the department of medicine by the art of a good department of geriatrics. This might reduce criticism from undergraduates such as the remark: "We come to clinical medicine with humanity and after three years they have educated it out of us."¹⁸ Each university medical faculty needs the support of a progressive service unit to practise, teach, and improve the use of clinical methods in the prevention of chronic incapacity. But does every district hospital need one?

Changes in Training

It is hoped that the university departments will be able to correct the shortfall in recruitment to geriatric service units in general, but this optimism may be misplaced. Staff will be attracted more readily to units linked with the universities, because there they may expect better standards of practice and better research opportunities than those prevailing in geriatric units which compete for staff against the specialist departments of district hospitals. These units will be helped only by changes in the requirements for registration and in obligations to service commitments. Postgraduate training in medicine could be brought better into line with service needs by insistence on the three-year general training, including at least a year of old health. Standards of geriatric medical practice and registrar experience of general medicine could both benefit by this, and it is not an unreasonable demand to make on the training of our more promising doctors. Old people have a right to good standards of medical care having, through their own life's work, laid the foundations of the modern graduate's affluent society and subsidized education.

It seems strange that, with so much in common, with such high proportions of old agers in general medical wards, and faced by dwindling recruitment, the general physician and geriatric physician have not, long ago, reached a compromise to resolve mutual problems and abolish some anomalies. Are we both really necessary?

Among other reasons given to support appointments in geriatrics, Wright and Simpson¹⁹ suggested that a doctor will not readily challenge assumptions about illness in old age unless he has to supervise the continuing care of his failures; only when stuck with a problem to solve will people investigate what the problem is. This may be less of an indication for geriatrics as a specialty than an argument supporting shared responsibility for longstay care among all doctors in clinical practice. To suggest this always evokes fears of a decline in standards of care, but

this risk may be accepted more readily than indifferent present standards, or than the numbers of these patients in general medical and surgical wards under less than desirable levels of care because of lack of knowledge, not lack of staff or resources. The community cannot afford doctors or nurses who do not have, or do not use this knowledge. If owing to differences in the nature of work in general medical wards geriatric medical practice cannot be transposed into them, then staff in training should themselves be transposed to learn and maintain the standards of modern geriatric wards. This may involve changes in postgraduate arrangements and consultant appointments, to spread medical cover over existing institutions; changes in research appointments, to include rotations of service commitment; and changes from entrenched attitudes in hospital practice, to bring the use of hospital accommodation better into line with community needs.²⁰

The heart of the matter is that what we have called "geriatrics" is as much disability-related as age-related, and the expertise acquired in it down the years should be practised and taught as part of general medical knowledge so that medical students see old health, like child health or therapeutics, practised in a continuum of high-quality care in all hospitals.

Nursing standards are menaced as much as medical standards by premature specializing. Most nurses on registration select a special course, and many general and geriatric wards are denied the stability once given to their nursing systems, and the clinical tutoring given to their students, by staff nurses. The ward sister today is too dependent on constantly changing junior staff heavily diluted by auxiliaries. Standards are deteriorating and it is unlikely that there will ever be any senior nursing administrators who have had firsthand experience of geriatrics. Why do we not insist on a year of preregistration service for nurses as for doctors?

The desire to use teaching of geriatric medical practice to portray the art of medicine in undergraduate education should not be interpreted as an anti-intellectual witch-hunt. The clock must not be turned back by excessive preoccupation with humanism at the expense of investigative scientific medicine, but "human compassion and academic excellence are not mutually exclusive".²¹ Neither are art and science in medicine, nor acuteness and chronicity in its clinical practice.

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